Supplementary Information

Tree height and hydraulic traits shape growth responses across droughts in a temperate broadleaf forest

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Table S1: Species-specific bark thickness regression equations

Species	Equations	r.2
Carya cordiformis	ln[B]=-1.56+0.416*ln[DBH]	0.226
Carya glabra	ln[B]=-0.393+0.268*ln[DBH]	0.040
Carya ovalis	ln[B]=-2.18+0.651*ln[DBH]	0.389
Carya tomentosa	ln[B]=-0.477+0.301*ln[DBH]	0.297
Fagus grandifolia	ln[B]=1*ln[DBH]	
Fraxinus americana	ln[B]=0.418+0.268*ln[DBH]	0.256
Juglans nigra	ln[B]=0.346+0.279*ln[DBH]	0.246
Liriodendron tulipifera	ln[B]=-1.14+0.463*ln[DBH]	0.545
Quercus alba	ln[B]=-2.09+0.637*ln[DBH]	0.603
Quercus prinus	ln[B]=-1.31+0.528*ln[DBH]	0.577
Quercus rubra	ln[B]=-0.593+0.292*ln[DBH]	0.087

Table S2: Species-specific height regression equations

Species	Equations	r.2
Carya cordiformis	0.332+0.808*x	0.874
Carya glabra	0.685+0.691*x	0.841
Carya ovalis	0.533+0.741*x	0.924
Carya tomentosa	0.726+0.713*x	0.897
Fagus grandifolia	0.708+0.662*x	0.857
Liriodendron tulipifera	1.33+0.52*x	0.771
Quercus alba	0.74+0.645*x	0.719
Quercus prinus	0.41+0.757*x	0.886
Quercus rubra	1.00+0.574*x	0.755
all	0.839+0.642*x	0.857

Table S3: Palmer drought severity index (PDSI) by month for focal droughts and other candidate drought years

year	month	PDSI	rank
focal droughts			
1966	May	-2.98	2
	June	-3.40	2
	July	-4.08	2
	August	-4.82	1
1977	May	-2.96	3
	June	-3.28	3
	July	-3.61	3
	August	-3.68	3
1999	May	-3.63	1
	June	-4.21	1
	July	-4.53	1
	August	-4.64	2
others			
1964	May	-1.08	20
	June	-1.97	11
	July	-2.46	8
	August	-2.98	5
1991	May	-1.79	10
	June	-2.10	10
	July	-2.17	10
	August	-3.06	4
2007	May	-1.37	16
	June	-1.59	16
	July	-2.40	9
	August	-2.55	11

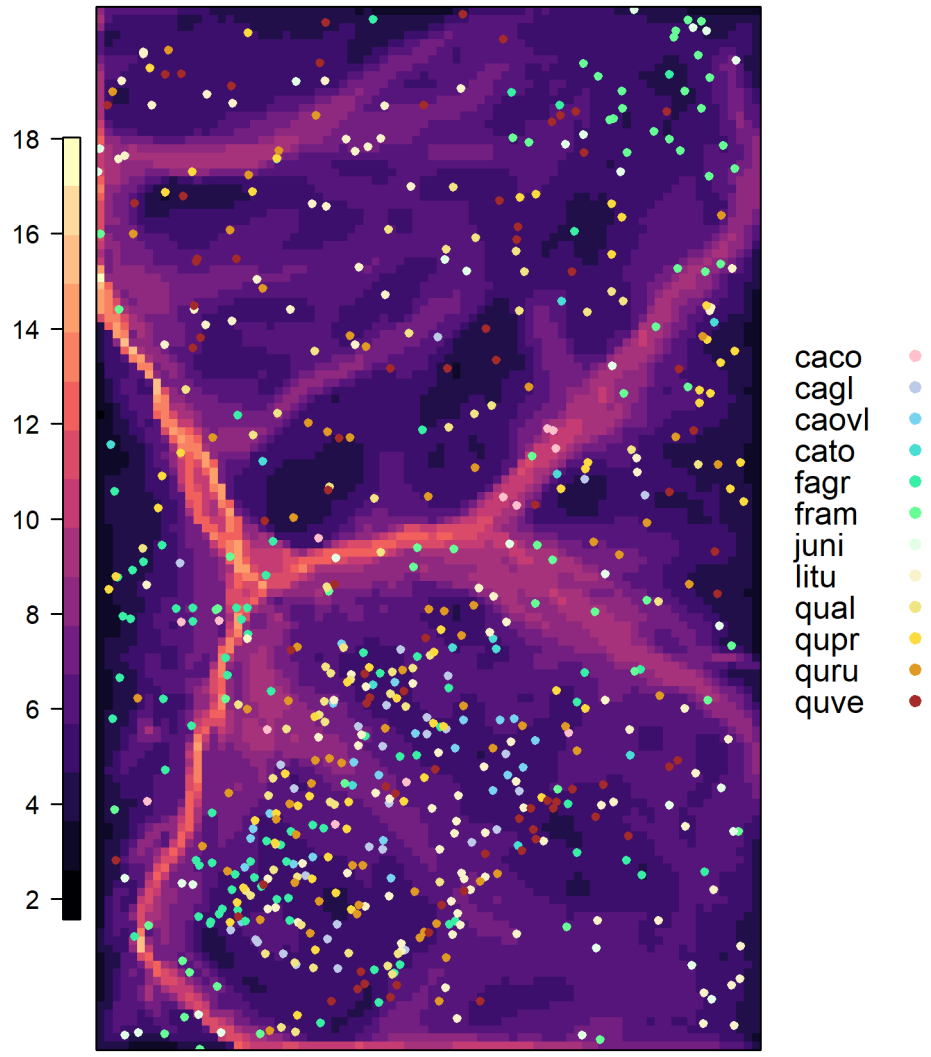

Figure S1: Map of ForestGEO plot showing TWI and location of cored trees

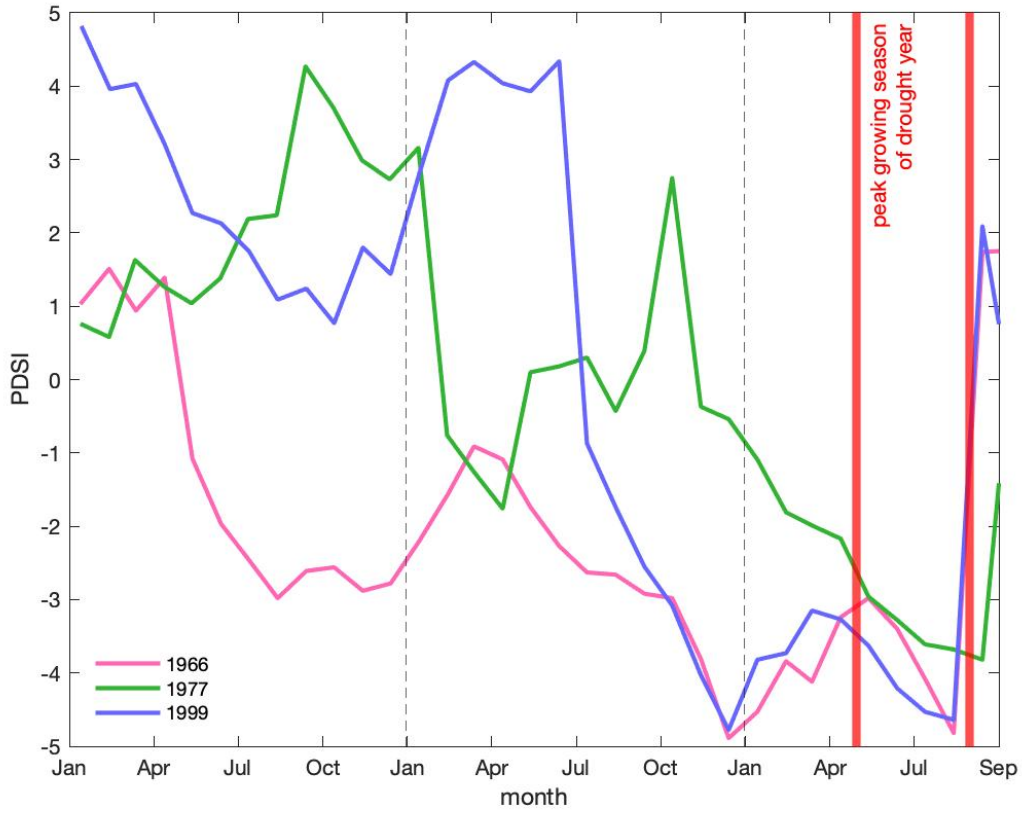

Figure S2: Time series of Palmer Drought Severity Index (PDSI) for the 2.5 years prior to each focal drought

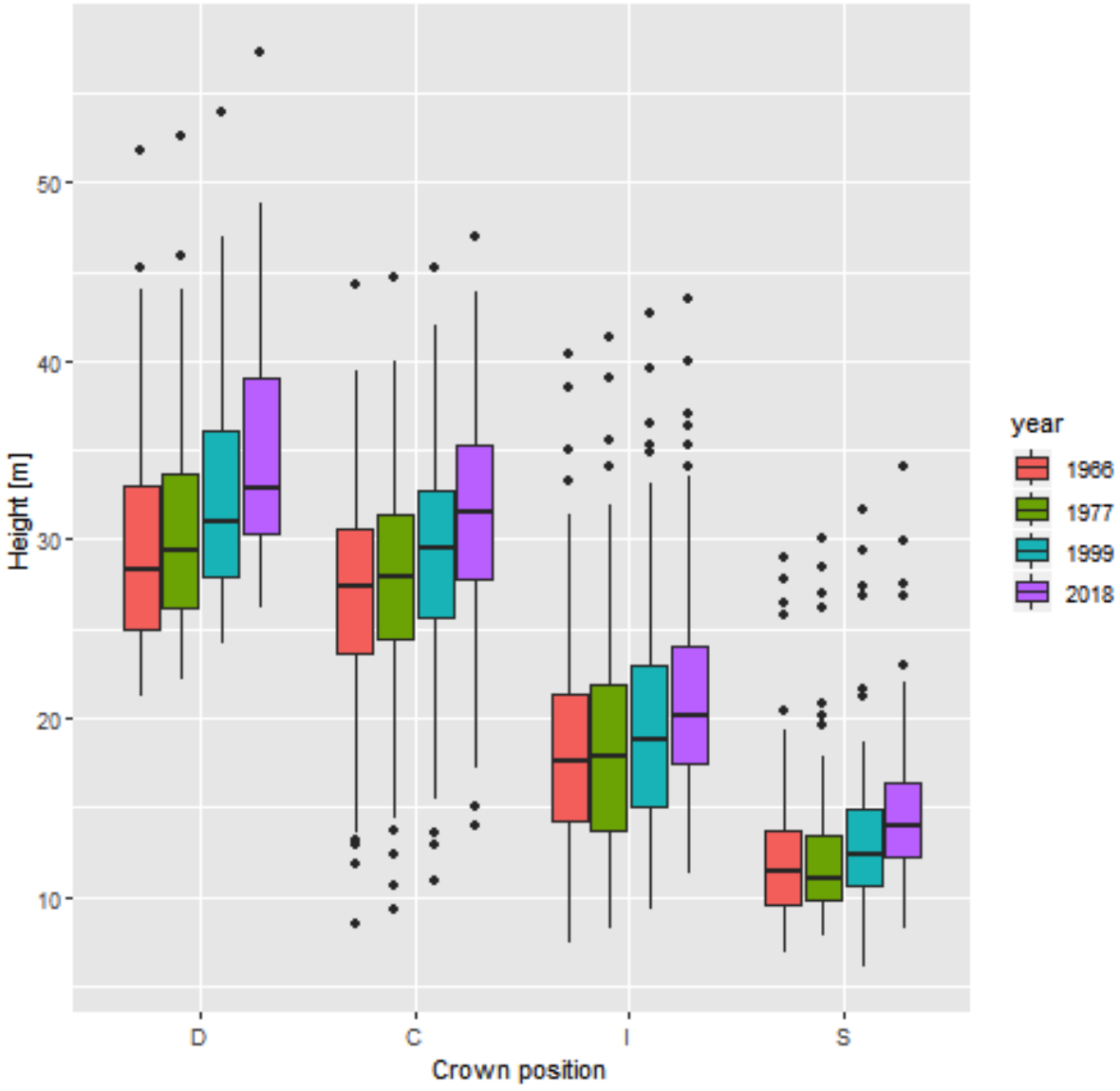

Figure S3: Height by canopy position across the three focal droughts and in the year of measurement (2018)